1.   (Amended)   A sensor device for measuring blood oxygen saturation comprising light source means for emitting a light beam, photodetector means for receiving the light beam after passing through or being reflected within living tissue and arranged for providing signals corresponding to intensities of a respective wavelength of light received by the photodetector means.

2.   (Amended)   A sensor device according to Claim 1 characterised in that the sensor uses a plurality of wavelengths.

5.   (Amended)   A sensor device according to Claim 2 characterised in that the different wavelengths bear a predetermined relationship with each other.

10.   (Amended)   A sensor device according to Claim 7 characterised in that five wavelengths are isobestic and one wavelength provides the maximum absorption difference between oxygenated haemoglobin and deoxygenated haemoglobin.

19.   (Amended)   A method according to Claim 18 characterised in that the method comprises using a sensor device having light source means for emitting a light beam, photodetector means for receiving the light beam after passing through or being reflected within living tissue and arranged for providing signals corresponding to intensities of a respective wavelength of light received by the photodetector means.

27.   (Amended) A method of monitoring of SIDS in infants comprising the steps of attaching a calibrated sensor to the skin of a patient and emitting white light, and detecting and measuring the scattered light, said calibrated sensor comprising light source means for emitting a light beam, photodetector means for receiving the light beam after passing through or being reflected within living tissue and arranged for providing signals corresponding to intensities of a respective wavelength of light received by the photo-detector means.

Please cancel Claims 29 and 30, and substitute the following claims therefor:

--33.   A computer program for carrying out a method comprising the steps of collecting data, processing said data collected and displaying SO_2 and SaO_2 levels based on the data collected.

34.   A computer program according to Claim 33, wherein said processing said data collected includes use of the algorithm:

$$SO_2 = \frac{[HbO_2] \times 100}{[HbO_2] + [Hb]},$$

wherein,

reflected absorptions (A) at wavelengths of 500 nm, 528 nm, 550 nm, 560 nm, 572 nm and 586 nm are used for calcula-

-4-